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PROPOSED AMENDMENT TO CLAIM 9

9. (Currently Amended) A data driving apparatus for a liquid crystal display device, comprising:
a shift register sequentially shifting an input source start pulse in accordance with an input source shift clock to generate a sampling signal;
a latch part sequentially latching a plurality of digital pixel data in response to the sampling signal from the shift register part;
a multiplexer part performing a time-division on the digital pixel data for a plurality of data lines for a first horizontal period, the digital pixel data sequentially being outputted to positive and negative paths by unit of adjacent digital pixel data;
a level shifter part raising a voltage of the time-divided pixel data from the multiplexer part;
a digital-analog converter part including:
a positive digital-analog converter converting one digital pixel data of the adjacent digital pixel data inputted to the positive path into a positive pixel signal; and
a negative digital-analog converter converting the other digital pixel data of the adjacent digital pixel data inputted to the negative path into a negative pixel signal;
a demultiplexer part providing the positive pixel signal from the positive digital-analog converter and the negative pixel signal received from the digital-analog converter to output channels of the demultiplexer corresponding to the data lines, during the first half of the first horizontal period and during the second half of the first horizontal period; and
an output part including:
a sampling part sampling the positive pixel signals and the negative pixel signals from the demultiplexer;
a holding part holding the sampled pixel signals provided through the sampling part during the previous horizontal period of the first horizontal period; and
a discharging part connected between output buffers and the data lines and simultaneously outputting the pixel signals held in the holding part for the first horizontal period to corresponding data lines for an enable period of a source output enable signal and outputting a common voltage Vcom to the corresponding data lines for a disable period of the source output enable signal,
wherein the sampling part and the holding part sample and hold the pixel signals supplied for the next horizontal period through the channel different from that of the pixel signal supplied for the first horizontal period,
wherein the common voltage Vcom is the voltage for driving a liquid crystal cell.

PROPOSED ARGUMENTS

In the claimed invention, the holding part holds the sampled pixel signals provided through the sampling part during the previous horizontal period of the first horizontal period, and the discharging part simultaneously output the pixel signals held in the holding part during the present horizontal period, the first horizontal period. None of the cited references teaches these features of claim 9.

In addition, as illustrated in Figure 5, the Vcom voltage in the claimed invention is supplied to the output channels for a disable period of the input source output enable signal of the second horizontal period. Different from the Vcom voltage, Figure 5 also shows the reference gamma voltage supplied to the PDAC and NDAC so as to convert the digital signal to the analog signal.